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(54) Title: METHOD AND DEVICE FOR BUILDING A VARIABLE-LENGTH ERROR CODE

SOURCE SYMBOL	PROBABILITY
e	0,1270
t	0,0906
a	0,0817
o	0,0751
i	0,0697
n	0,0674
s	0,0633
h	0,0609
r	0,0599
d	0,0425
l	0,0403
c	0,0278
u	0,0276
m	0,0241
w	0,0236
f	0,0223
g	0,0202
y	0,0197
p	0,0193
b	0,0149
v	0,0098
k	0,0077
j	0,0015
x	0,0015
q	0,0010
z	0,0007

(57) Abstract: The invention relates to a variable-length error-correcting (VLEC) code technique, in which the main steps are: defining all the needed parameters, generating a code having a fixed length L1, storing in a set W thus obtained all the possible L1-tuples distant of the minimum diverging distance  $d_{[min]}$  from the codewords (one extra-bit being affixed at the end of all words if the new set W thus obtained is not empty), deleting all words of W that do not satisfy a distance criterion with all codewords, and verifying that all words of the final set W satisfy another distance criterion. Assuming that most good codes do not have jump of length, the method according to the invention allows to reduce the set of examined VLEC codes. Following this hypothesis, a new construction method, called no hole optimization, is defined, in which it is avoided to add more than one bit at the end of each word of the set W. The new algorithm does not consider very unlikely code structures and thus allows to gain in complexity.



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